19 November 1979

MEMORANDUM FOR THE RECORD

SUBJECT: AIRES Briefing

1. General

On Wednesday 31 October 1979 [   ] (AIRES   25X1
Requirements Manager, DIA, DC-5C, [   ] briefed the DASITT on DIA   25X1
ADP-T systems associated with imagery processing. The briefing
concentrated on AIRES support depicted and described through five (5)
node descriptions and flow diagram provided by [   ] DASITT   25X1
members present were:

All DASITT members were notified by telephone in advance and were
invited to participate. [   ]   25X1
The remainder of this memorandum, in order to be non duplicative of
the extensive information provided, highlights and expands upon
information in descriptions of the "nodes" as identified by [   ]   25X1
[   ] These five nodes are:

* Collection/Exploitation Requirements
* Imagery Interpretation
* Data Base Update, Maintenance and Associated Products
* General Research and Support   25X1
* Analyst Support
* U&S Commands and Military Deportments Interface (PLANNED)

DIA review(s) completed.

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2. Background of AIRES

The Advanced Imagery Requirements and Exploitation System (AIRES) development effort began in mid 1973. _____ 25X1
_____ was a major factor in the DIA decision to develop a new system to remove/reduce delays experienced within DIA with respect to collection management, exploitation and analysis of imagery derived information. AIRES requirements were thus to provide timely support to Washington area DIA/DOD users located at the Pentagon, _____ and Arlington Hall 25X1 Station. AIRES requirements also included providing data access and interfaces to U&S Commands (world-wide), military departments, and civilian IC agencies as appropriate to consolidate and integrate imagery collection/exploitation requirements, DIA imagery analysis activities and support to the NMIC and the JCS intelligence functions _____ 25X1

AIRES achieved its IOC in January 1978 and continues to expand its user services and functions. The AIRES implementation relied heavily on the PACER operational capability developed by SAC and is resident on H6080 computer system. It currently supports over 100 terminals and is extending its external interfaces with related ADP systems via data communication facilities directly interfaced (via 21V) with AIRES. Currently, however, the majority of its external interfaces are accomplished in batch mode (daily, weekly and monthly) through magnetic-tape exchange. _____ 25X1

3. Collection/Exploitation Requirements Node

AIRES provides a mechanism for the automated receipt, monitoring and managing of DIA and U&S Command imagery collection and exploitation requirements. It is the major DOD interface with CAMS for the nomination of standing and non time-sensitive collection requirements. Its data base is the IROF, containing those validated requirements (some 86,500) concerning 46,500 unique installations (targets) identified for collection. The system seems to work fairly well for standing requirements. Currently, time-sensitive and ad hoc requirements are handled by CCF (from the U&S Commands), or directly to the CSC _____ 25X1 _____ in the case of the military deportments. Both the CCF and CSC have access to and directly utilize CAMS and AIRES terminals. AIRES has implemented software to support Washington area Collection/Exploitation Management functions and analysts (all-source) requests for imagery collection. It plans to extend this capability to U&S Commands via IDHSC II in CY1980. Clearly, time-sensitive, ad hoc and crisis requirements are not yet supported well by AIRES. Most noticeable is the lack of timely feedback on the status of said request. Its electrical interface via DATEX with CAMS, through the 21V, appears to be working satisfactorily. It is likely that when AIRES can develop and 25X1 improve on the CAMS-interface so that it supports well the CCF and "internal" analysts, then the U&S Command structure and ADP systems, through IDHSC II, could be equally served. _____ 25X1

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4. Imagery Interpretation (II) Node

This subset of AIRES is similar to the functions developed for PACER. Approximately half of the AIRES terminals are devoted to PI support function. There are terminals at an approximately 2:1 ratio/PI for I&W at the Pentagon and 4:1 at Arlington Hall [   ] These   25X1 provide input mechanisms for PI reports in response to DIA "standing" and Direct Support Exploitation. The reports ultimately (monthly) are collected and result in batch update to the DIA maintained Data Base of Imagery Derived Information (DBIDI). AIRES planning includes expansion of the current "profiling" capability which results in transmission of all PI reports item by item to U&S Commands, the NMIC, and DIA served "internal" analysts. NPIC reports are directly entered in the DBIDI. AIRES intends to handle much of the data base input and maintenance function of the DBIDI in the future. [   ]   25X1

5. Data Base Update, Maintenance and Associated Products Node

The description and "flow" diagram of this node is the most extensive. Considerable detail and "loading" factors can be obtained or extrapolated from the information provided here. This node in fact describes the data base environment which AIRES supports. One is struct by the diversity of input (tapes, on-line and electrical BATCH) and quanity of output. The data base contains installation identification elements (IIE) on some 438K installations, approximately 10 months of PI reports from "all" producers which total 290K items with an arrival rate of 25-30K /month, the last 45 days of NPIC Spot/Highlight reports, and historical area coverage (HOC) for [   ] HAC for the   25X1 [   ] and 30 days of A/C coverage for crisis areas only. AIRES plans to become (maybe it is) the authoritative data base   25X1 on AIF targets. Monthly, AIRES produces or will produce a "new install- ation tape" for AIF update and I believe intends in fact to produce AIF charge data for at least the IIE's on existing targets. [   ]

6. General Research and Support Node

There is really not to much to say about this node. Essentially it is the "name" given to the accessibility of AIRES capabilities imple- mented to support DIA internal users, to external users. These users use the data resident in AIRES to support imagery related activities for which they have interest or responsibility. In fact, access to the data is provided by a variety of application programs which have been developed for DIA Analyst, Collection Managers, and DIA Imagery Interpreters. External CRT terminals which provide the "Read-only" access capability exist within the COMIREX staff elements (ICRS, EXSUBCOM,CSC), NPIC, State Department and ADCOM. AIRES intends to provide this capability (limited naturally to a small number of AIRES Access Ports) to all U&S Commands and other DOD organizations with requirements for this data. It is the kind of access one would or could provide via COINS when/if   25X1 AIRES enters that network and assuming the AIRES capacity is adequate to   25X1 respond timely to information requests. [   ]

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7. Analyst Support Node

The capabilities in AIRES are extended in this node to support
all-source analysts, target analysts (mostly Crisis/area oriented) and
I&W managers with information necessary for them to advise and make
decisions regarding an unusual situation. Included is considerable OB
data (all-source), operational reports, and I&W Problem Set. One is
left with the impression that this node and its description is more a
plan and/or concept than a reality. It encompasses many of the ideas we
heard in the ARTISS briefing at the CCF. In fact, if implemented it
would probably be ARTISS. Of interest is the statement that "AIRES has
the capability of maintaining 100 crisis areas described by country, WAC
area or polygen area". I'm not sure what "capability of maintaining"
means, but I've got the feeling that it means only output (printed) of
all the data AIRES holds on the targets which have been described as
belonging to the one of one-hundred crisis areas. This is a nice
feature if the "capability of maintaining" means near real-time and the
output doesn't take a major (overnight?) batch run. We might send this
node description to the CCF and ask them if implemented does this
satisfy the requirements of the ARTISS concept?   25X1

8. AIRES/U&S Commands, Military Deportments Interface Node

Little of the capabilities expressed in the definition of the
processes and interfaces in this node are operational. The planned
capabilities include utilization of 21V's at LANTCOM, PACOM, SAC, EUCOM,
ADCOM, Navy/IAIPS, Army/FSTC/MIA and AF to connect/interface, via IDHSC
II, terminals and/or local ADP systems to the AIRES via the Arlington
Hall IDHSC II switch. AIRES will then provide: 25X1

* capability to enter imagery collection/exploitation
  requirements on command local systems or directly connected
  AIRES terminals and transmit these to AIRES

* capabilities to monitor the status of the above requirements

* capabilities for "bulk" data transfer (more timely than
  mail/courier of magnetic tape and more accurate)

* capabilities for these organizations to use General Research
  tools available in AIRES.

Presently ADCOM has AIRES terminals. DIA and LANT anticipate IOC in
April 80 with other U&S Commands and the military departments phasing in
depending upon "local" resource availibility (ie. when they want to and
when they can budget the HW/SW costs). AIRES plans man-machine,
interactive query response capabilities via IDHSC II in February 80.   25X1

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9. Summary

AIRES has ambitious plans. AIRES supports the largest number of
users and most diverse set of functions. It maintains and plans to
provide access to the largest base of imagery derived information.
AIRES intends to double the number of terminals it supports (in excess
of 200) by 1984. AIRES is using PACER age technology. PACER plans an
upgrade by 1984. AIRES hopes to utilize a more distributed ADP
architecture in its expansion. But these plans are fuzzy at the present
time. It is likely that without major HW/SW upgrade AIRES will be
unprepared to adequately handle the quanity and timeliness of NRT
collection systems _____ Alternatively, AIRES must
eliminate some of its planned support functions or distribute them on a
much larger scale than currently envisioned. The AIRES computer
environment has all of the earmarks of a large scale, centralized system
implementation without nearly the capicity to timely serve the user
requirements anticipated in the mid 80's. Conversely, if it does, the
IDHS-80 upgrade plans at PACER appear excessive to the requirements.
Currently PACER and AIRES benefit from considerable H/W and S/W
commonality as well as a strong and knowledgable user ADP and contractor
staff. I am concerned.

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DISSEMINATION CONTROL ABBREVIATIONS

NOFORN-	Not Releasable to Foreign Nationals
NOCONTRACT-	Not Releasable to Contractors or Contractor/Consultants
PROPIN-	Caution-Proprietary Information Involved
USIBONLY-	USIB Departments Only
ORCON-	Dissemination and Extraction of Information Controlled by Originator
REL . . .-	This Information has been Authorized for Release to . . .